

REMARKS

Claims 6-10 and 23-26 are pending in the present application. Claim 6 has been amended. Claims 23-26 have been added. Claims 1-5 and 11-22 were canceled previously. The specification has been amended to include a new FIG. 3D in the drawings and to address the new figure.

Applicants respectfully request reconsideration of the application in view of the foregoing amendments and the remarks appearing below.

Objection to the Drawings

The Examiner has objected to the drawings under 37 C.F.R. § 1.83(a) as failing to show every feature of the claimed invention. In particular, the Examiner asserts that the drawings, particularly FIG. 1, do not show the series of magnetic metallic strips disposed on each of the first and second portions of the two or more outer layers and on each of the one or more inner layers. Applicants respectfully disagree.

It is Applicants' position that the originally filed paragraphs [0030] and [0031], when read in conjunction with originally filed FIGS. 1 and 3A-3C as these paragraphs explicitly require, disclose to those having ordinary skill in the art all of the features of original claims. Applicants assert that a careful reading of originally filed paragraphs [0030] and [0031] and other portions of the disclosure indicate, among other things, that each outer layer (denoted by numeral 14 in FIG. 1) may comprise multiple layers, each of which may comprise first and second portions each containing core strips. In turn, these core strips are shown in FIGS. 3A and 3B, which are described in the Brief Description of Drawings section as showing a "top layer" and an "intermediate layer," respectively.

By logic, the "first portion" and "second portion" language of paragraph [0030] and the claims denote that one portion is above the other in layered fashion. This is so because original paragraph [0030] states that a particular pattern formed by the two series of metallic strips is an orthogonal grid. This could only be so if one series of metallic strips, e.g., of the "top layer" of FIG. 3A, overlays the other series of metallic strips, e.g., the "intermediate layer" of FIG. 3B. Again, see the Brief Description of Drawings section for the use of the terms "top layer" and "intermediate layer," which clearly correspond to the "first portion" and "second portion" language used in original claims and original paragraph [0030].

Nonetheless, Applicants submit herewith a replacement drawing sheet that contains a new FIG. 3D that presents the various layers in the way it appears the Examiner is requesting them to be shown. Applicants maintain, however, that new FIG. 3D is not necessary because the original figures, when viewed in light of the original written description of the invention, disclose all of the features of the claims.

For at least the foregoing reasons, Applicants respectfully request that the Examiner withdraw the present objection.

Rejection Under 35 U.S.C. § 112, Second Paragraph

The Examiner has rejected claims 6-10 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. In particular, the Examiner states that the layer structure and arrangement of the layers relative to the inductor winding is unclear. The Examiner also states that Applicants should clarify the meaning of "said series of magnetic metallic strips on said first portion and said second portion arranged so as to form a particular pattern."

Applicants have amended claim 6 in a number of ways that Applicants believe overcome this rejection. Regarding the relationship of the various layers, Applicants have amended claim 6 to correspond to FIG. 1 as modified by the structures shown in FIGS. 3A-3C and now shown in new FIG. 3D. In this connection, Applicants note that the language of claim 6 has been changed to "at least two" and "at least one" from "two or more" and "one or more" respectively as they correspond to the outer layers and inner layer(s). This is clearly shown in the figures.

Regarding the meaning of "said series of magnetic metallic strips on said first portion and said second portion arranged so as to form a particular pattern," Applicants have amended claim 6 to more particularly define the particular pattern as being formed by the two series of magnetic metallic strips in the first and second portions when the two series are in registration with one another, in other words, when one series of strips is directly above the other. Applicants believe that amended claim 6 is definite relative to how the series of strips relate to one another to define a particular pattern.

For at least the foregoing reasons, Applicants respectfully request that the Examiner withdraw the present rejection.

Rejection Under 35 U.S.C. § 103

The Examiner has rejected claims 6-10 under 35 U.S.C. § 103 as being obvious in view of U.S. Patent No. 6,441,715 to Johnson and Japan patent publication JP 02-068907 to Murakami et al., stating Johnson discloses an inductor having all of the limitations of these claims except for the magnetic metallic strips in the various layers. The Examiner then states that Murakami et al. disclose such strips and asserts that it would have been obvious to a person having ordinary skill in the art at the time of the invention to provide the Johnson inductor with the Murakami et al. strips. Applicants respectfully disagree.

Johnson and Murakami et al. disclose two very different inductor configurations. Johnson discloses an inductor having a core/winding layer in which a winding (coil) is wound around a core and the coil and core are formed on a planar substrate. Therefore, the core/winding layer is essentially planar in that the coil and core lie in the same plane. The outer layers (20, 70) are monolithic magnetic layers.

Murakami et al., on the other hand, disclose an inductor having a sheet-like core made up of magnetic wire or strips (1) mounted on a dielectric plate (4). A coil winding (2) is wound around the core in a direction transverse to the longitudinal axes of magnetic wires 1. Applicants note that core/winding structure is not planar due to the direction that the winding is wound around core. To be planar in a manner similar to the Johnson inductor, winding 2 would have to encircle the square shape of dielectric plate. The Murakami et al. inductor has only one structure that could be considered an outer layer, i.e., the grouping of wires or strips 3.

Regarding amended claims 6-10, each of these claims requires among other things at least two outer layers each including two portions having corresponding respective series of strips in registration with one another so as to form a particular pattern (orthogonal grid in the case of claim 7 and transverse grid in the case of claim 8). In contrast, both Johnson and Murakami et al. disclose only single-layer outer layers. In the case of the Johnson patent, Johnson discloses only monolithic and non-striped outer layers 20, 70. In the case of the Murakami et al. publication, Murakami et al. disclose only a single outer layer made up of only one series of wires/strips. Consequently, even if these references were combined, they would lack at least two outer layers each containing two series of strips as required by amended claims 6-10.

Applicants note that only an improper amount of hindsight could result in an assertion that a combination of the Johnson and Murakami et al. render amended claims 6-10 obvious because the combination completely lacks the features of these claims directed to sets of series of strips being present and forming particular patterns with one another.

For at least the foregoing reasons, Applicants respectfully request that the Examiner withdraw the present rejection.

Patentability of New Claims 23-26

New claims 23-26, like claims 6-10, are directed to an inductor represented in original FIGS. 1 and 3A-3C and new FIG. 3D. New claims 23-26 contain slightly different language and a different claiming approach than claims 6-10. That said, the language of claims 23-26 is fully supported by the application as originally filed. New claims 23-26 are similar to claims 6-10 discussed above in that they are clearly patentable over the Johnson/Murakami et al. combination and the other references of record.

CONCLUSION

In view of the foregoing, Applicants submit that claims 6-10 and 23-26, as amended, are in condition for allowance. Therefore, prompt issuance of a Notice of Allowance is respectfully solicited. If any issues remain, the Examiner is encouraged to call the undersigned attorney at the number listed below.

Respectfully submitted,

INTERNATIONAL BUSINESS MACHINES
CORPORATION

By: 

Morgan S. Heller II

Registration No.: 44,756

DOWNS RACHLIN MARTIN PLLC

Tel: (802) 863-2375

Attorneys for Applicants

Attachment

Replacement drawing sheet

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